

Claims

[c1] What is claimed is:

1. A method for forming microstructure optical elements, comprising the following steps:

(A) providing a mold and forming a cavity in the mold according to the shape of microstructure optical elements;

(B) forming a sealed space in said cavity;

(C) vacuuming through an extraction opening arranged near the end of the formed cavity inside said sealed space; and

(D) filling the material to be formed into the cavity and obtaining microstructure optical elements.

[c2] 2. The method for forming microstructure optical elements as claimed in claim 1, wherein in step (A), the mold includes a upper mold and a lower mold, and an upper mold core and a lower mold core are disposed inside the upper mold and the lower mold respectively, and then the upper mold and the lower mold are closed to form said cavity between the upper mold core and the lower mold core.

[c3] 3. The method for forming microstructure optical elements as claimed in claim 1, wherein in step (B), a seal-

ing component is disposed on separated surface of the mold forming a sealed space in the cavity.

- [c4] 4. The method for forming microstructure optical elements as claimed in claim 1, wherein said extraction opening vacuums the cavity into a vacuum condition.
- [c5] 5. The method for forming microstructure optical elements as claimed in claim 1, wherein said extraction opening is disposed around said mold core.
- [c6] 6. The method for forming microstructure optical elements as claimed in claim 1, wherein said extraction opening is disposed on separating surface of said mold.
- [c7] 7. The method for forming microstructure optical elements as claimed in claim 1, wherein said extraction opening could connect extraction path and vacuum equipment.
- [c8] 8. A forming mold with microstructure optical elements comprising:
 - a pair of upper mold and lower mold forming a cavity between said upper mold and said lower mold;
 - a sealing element disposed between said upper mold and said lower mold forming a sealed space in the cavity;
 - an extraction opening disposed around the end of said formed cavity.

- [c9] 9. The forming mold with microstructure optical elements as claimed in claim 8, wherein a pair of upper mold core and lower mold core is disposed inside said cavity.
- [c10] 10. The forming mold with microstructure optical elements as claimed in claim 8, wherein said sealing element is an O-ring.
- [c11] 11. The forming mold with microstructure optical elements as claimed in claim 8, wherein an extraction path is disposed at one side of said extraction opening.
- [c12] 12. The forming mold with microstructure optical elements as claimed in claim 8, wherein said extraction opening is disposed between the upper mold and the lower mold of said mold.
- [c13] 13. The forming mold with microstructure optical elements as claimed in claim 9, wherein said extraction opening is disposed between the upper mold and the upper mold core.
- [c14] 14. The forming mold with microstructure optical elements as claimed in claim 9, wherein said extraction opening is disposed between the lower mold and the lower mold core.

